

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number
WO 2004/008794 A3

(51) International Patent Classification⁷: **H04Q 7/36**

(21) International Application Number:
PCT/GB2003/003070

(22) International Filing Date: 15 July 2003 (15.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0216291.5 15 July 2002 (15.07.2002) GB

(71) Applicant (for all designated States except US): **KING'S COLLEGE LONDON** [GB/GB]; The Strand, London WC2R 2LS (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **AGHVAMI, Abdol, Hamid** [GB/GB]; Centre for Telecommunications Research, King's College London, The Strand, London, Greater London WC2R 2LS (GB). **SAID, Fatin** [GB/GB]; Centre for Telecommunications Research, King's College London, The Strand, London, Greater London WC2R 2LS (GB). **GHORASHI, Seyed, Ali** [IR/GB]; Centre for Telecommunications Research, King's College London,

The Strand, London, Greater London WC2R 2LS (GB). **WANG, Lin** [CN/GB]; Centre for Telecommunications Research, King's College London, The Strand, London, Greater London WC2R 2LS (GB).

(74) Agent: **CASBON, Paul, Richard; Lucas & Co.**, 135 Westhall Road, Warlingham, Surrey CR6 9HJ (GB).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

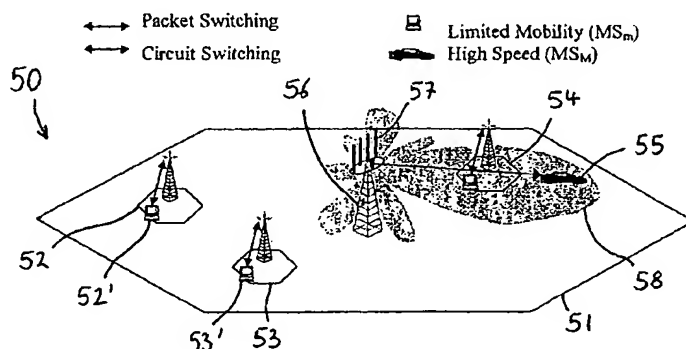
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: CELLULAR COMMUNICATIONS SYSTEMS



(57) Abstract: A method of operating a cellular communications system comprising at least one macro cell having a macro cell base station and at least one micro cell having a micro cell base station, at least part of the micro cell being located within an area served by the macro cell base station, which method comprises the steps of: (1) receiving an electronic indication representative of the quality of service at one or more cellular communications devices served by the macro cell base station; (2) electronically processing the or each electronic indication to obtain a comparison with a predetermined threshold for said quality of service; and (3) electronically controlling signals emitted from the micro cell base station in response to said comparison such that the quality of service of any cellular communication device(s) served by the macro cell base station that are within a predetermined range of the micro cell base station exceeds said predetermined threshold so as to permit the transmission and reception of data in the micro and macro cells on substantially the same frequency band(s).

WO 2004/008794 A3



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:
18 March 2004